Green Innovation Grant Program (GIGP) No. G-083-70

Village of Hoosick Falls
Project Name: Sludge Holding Tank Modifications

DEC Region: 5 County: Rensselaer

Type of Financing: American Recovery and Reinvestment Act (ARRA) Green Innovation Grant Program

Total Project Cost Submitted by Applicant: $111,000.00

Total Funds Requested: $100,350.00

Recommended GIGP Award Amount: $100,350.00

Other Funding Sources: $0.00

Project Category: Clean Water State Revolving Fund (CWSRF) - Energy Efficiency.

Project Description: This project involves the installation of a mixer in the sludge holding tank at the wastewater treatment plant as well as solar panels to provide clean power for the mixer.

Project Summary: The Village of Hoosick Falls operates a wastewater treatment facility. The sludge holding tank at the facility has been damaged during below-freezing weather. The installation of the mixer and the solar units to provide power to the mixer will serve the following purposes: (1) provide a source of clean renewable energy for the mixer at the wastewater treatment plant; (2) maintain treatment efficiency; and (3) protect water quality by preventing damage to the sludge holding tank during below-freezing weather.

This project is categorically eligible for GIGP financing per the United States Environmental Protection Agency's (EPA's) "Guidance for Award of Recovery Act Funding to State Revolving Funds"[1]:

1. Energy Efficiency. Categorically eligible projects include the use of "improved technologies and practices to reduce the energy consumption of water quality projects… produce clean energy used by a treatment works" (page 43 of the EPA Guidance) including the example in IV.c. "producing clean power...on site …[from] solar [power]" (page 44).

Funding Summary: The Village has committed to providing the local 10% match for the project.

SEQR Status: The applicant states that the project is a Type II Action under SEQR. SHPO issued final No Adverse Impact Letter on June 11, 2009. Awaiting SERP Certification.

Construction Schedule:

Description	Construction Start	Construction Completion
Village of Hoosick Falls Sludge Holding Tank Modifications	September 15, 2009	February 1, 2010

[1] http://www.epa.gov/water/eparecovery/docs/2009-03-02_Final_ARRA_SRF_Guidance.pdf

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- Floating mixer rated at 10,000 gallons per minute
- 16 foot diameter mixer
- Three 80-watt photovoltaic solar panels

The estimated cost of the mixer is summarized in Table 2-3:

Table 2-3
Solar Water Heated Cost

Item	Cost
Equipment Cost	$64,000
Shipping	$3,000
Installation	$5,000
General Conditions	$5,000
Engineering	$15,000
Contingency 15%	$14,000
Total Cost	**$106,000**

With an annual savings of approximately $15,500, the payback on the equipment is 4.1 years. Total project payback would be 6.8 years.

It is likely that this innovative approach would receive funding from NYSERDA which would lower the payback.

This alternative has a high capital cost but offers benefits beyond addressing the freezing issues that makes it highly attractive and cost efficient.

Because of the energy savings and the favorable payback, the solar mixer is strongly recommended. The mixer would address the problem of surface freezing and replace the use of a 15hp blower. The solar mixer would have an electric back up however it would only take 100 watts to run the mixer. Additionally, the existing blowers can always be used if maintenance is needed on the floating solar mixer.